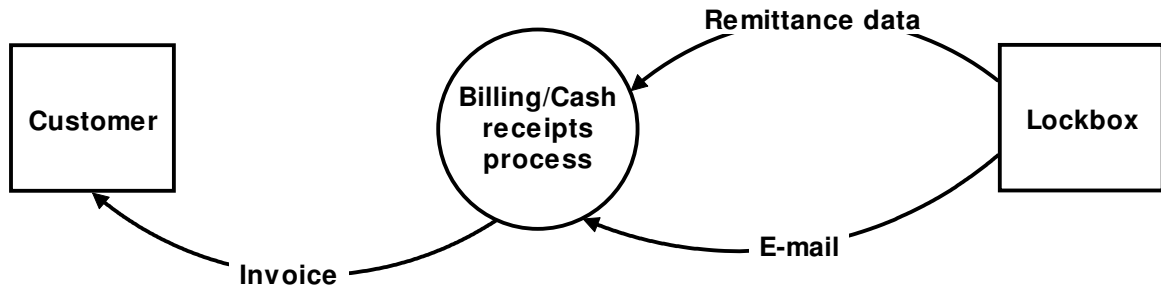
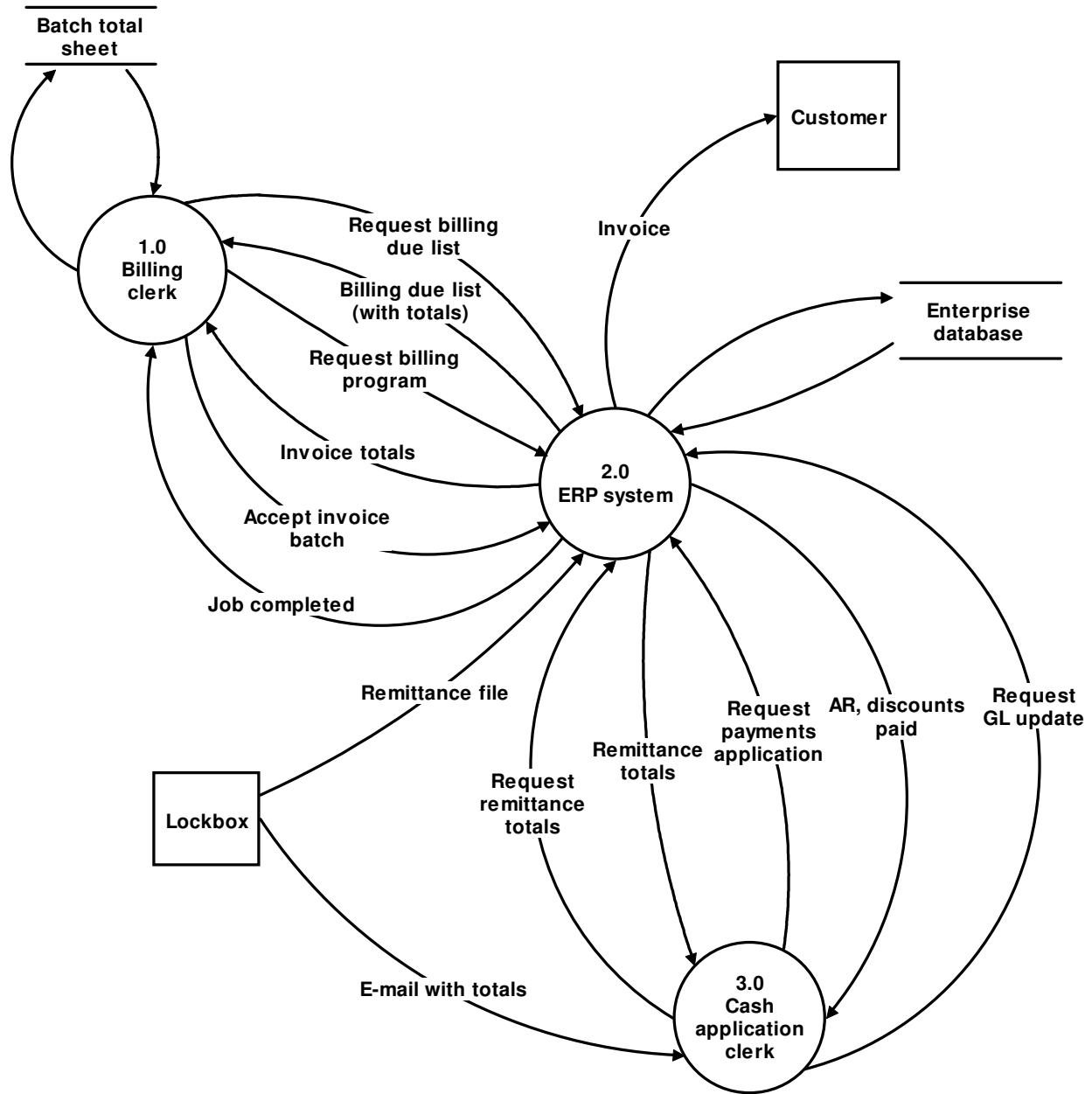


**Stockbridge Company (Billing and Cash Receipts) Solutions (see Note on pg. 11-4)****P11-1 ANS. a. Table of Entities and Activities for Stockbridge Company (Billing and Cash Receipts)**

Entities	Para	Activities
Billing clerk	2	1. Requests billing due list display.
ERP system	2	2. Display billing due list.
	2	3. Display totals for billing due list.
Billing clerk	2	4. Record billing due list totals on batch total sheet.
	3	5. Request execution of billing program.
ERP system	3	6. Prepare invoice records (access customer, inventory, sales order).
	3	7. Calculate and display invoice totals.
Clerk	4	8. Reconcile billing due and invoice totals.
	4	9. Accept invoice batch.
ERP System	4	10. Update sales order, close billing due list, create AR, update GL, send electronic invoice, and display job completed.
Customer	4	
Lockbox	5	11. Send remittance file.
	5	12. E-mail totals.
ERP systems		13. Save remittance file.
Cash application clerk (CA clerk)	5	14. Request display of remittance totals.
ERP system	5	15. Display remittance file totals.
CA clerk	5	16. Compare e-mail and remittance file totals.
	6	17. Request application of payments.
ERP system	6	18. Examine terms, calculate amount due, and record payment.
	6	19. Display total AR, discounts, and amount paid.
CA clerk	6	20. Compare payment totals to e-mail and remittance file totals.
	6	21. Request update of GL.
ERP system	6	22. Update GL.



**FIGURE SM-11.1** Problem 1, part b solution—context diagram for Stockbridge Company (Billing and Cash Receipts)

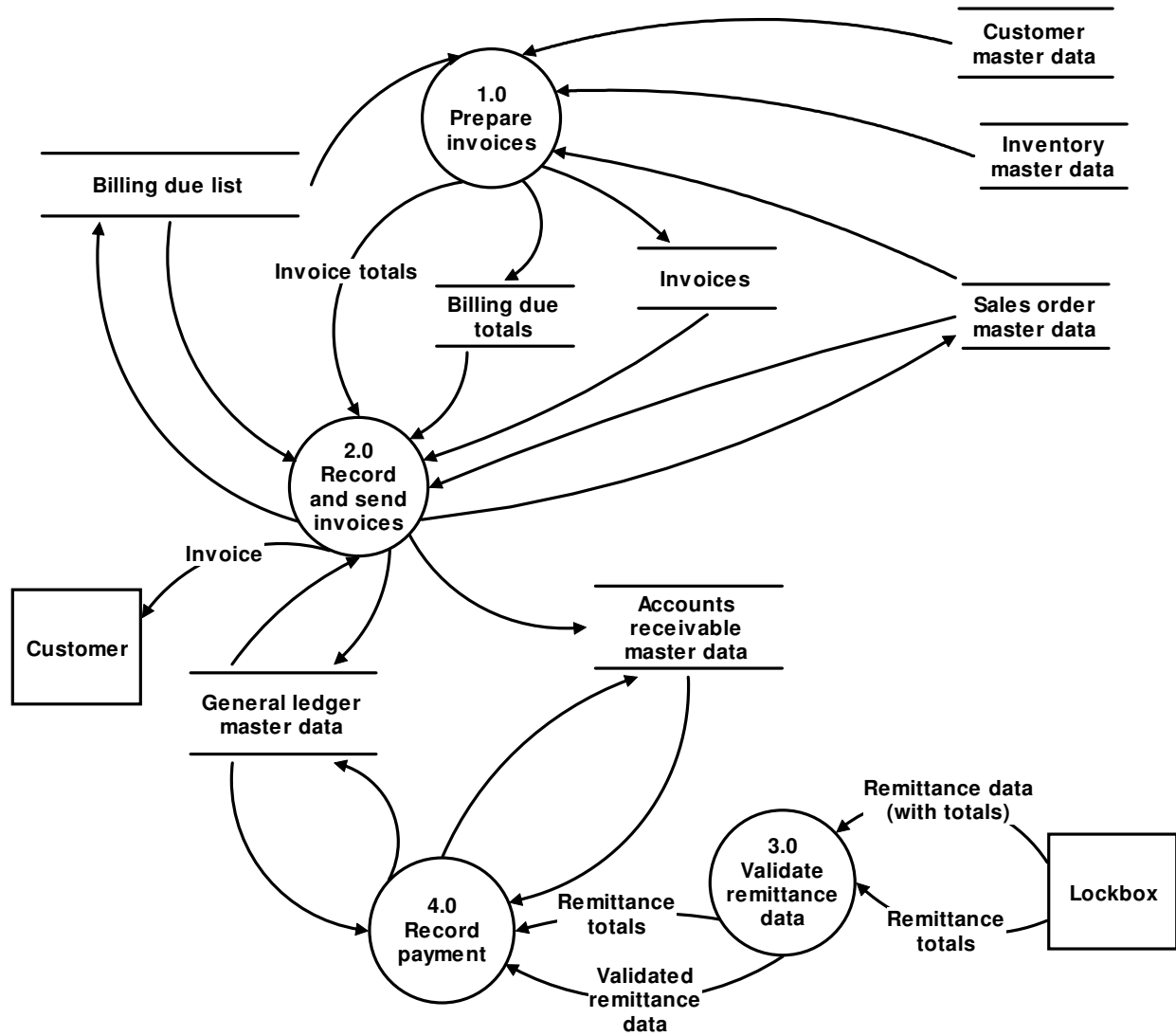


NOTE: See the logical DFD for details regarding flows into and out of the enterprise database.

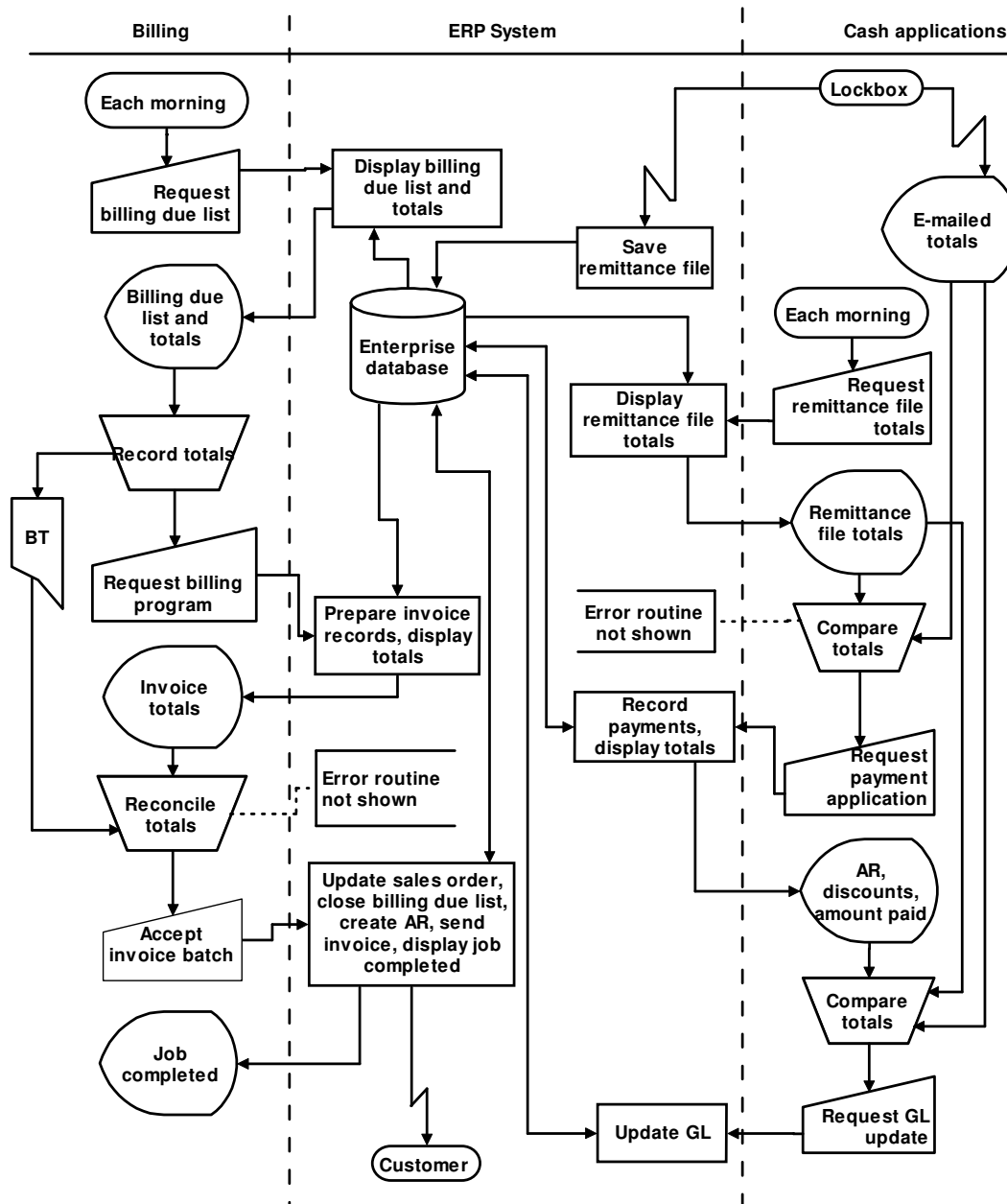
**FIGURE SM-11.2** Problem 1, part c solution—physical DFD for Stockbridge Company (Billing and Cash Receipts)

**d. Table of Entities and Activities (Annotated) for Stockbridge Company (Billing and Cash Receipts)**

Entities	Para	Activities	Process
Billing clerk	2	1. Requests billing due list display.	<b>1.0 Prepare invoices</b>
ERP system	2	2. Display billing due list.	
	2	3. Display totals for billing due list.	
Billing clerk	2	4. Record billing due list totals on batch total sheet.	
	3	5. Request execution of billing program.	
ERP system	3	6. Prepare invoice records (access customer, inventory, sales order).	
	3	7. Calculate and display invoice totals.	
Clerk	4	8. Reconcile billing due and invoice totals.	<b>2.0 Record and send invoices</b>
	4	9. Accept invoice batch.	
ERP System	4	10. Update sales order, close billing due list, create AR, update GL, send electronic invoice, and display job completed.	
ERP systems		13. Save remittance file.	<b>3.0 Validate remittance data</b>
Cash application clerk (CA clerk)	5	14. Request display of remittance totals.	
ERP system	5	15. Display remittance file totals.	
CA clerk	5	16. Compare e-mail and remittance file totals.	
CA clerk	6	17. Request application of payments.	<b>4.0 Record payment</b>
ERP system	6	18. Examine terms, calculate amount due, and record payment.	
	6	19. Display total AR, discounts, and amount paid.	
CA clerk	6	20. Compare payment totals to e-mail and remittance file totals.	
	6	21. Request update of GL.	
ERP system	6	22. Update GL.	



**FIGURE SM-11.3** Problem 1, part e solution—logical DFD for Stockbridge Company (Billing and Cash Receipts)



**FIGURE SM-11.4** Problem 2, part a solution—systems flowchart for Stockbridge Company (Billing and Cash Receipts)

	Control Goals of the Stockbridge Billing and Cash Receipts Business Process														
	Control Goals of the Operations Process					Control Goals of the Information Process									
	Ensure effectiveness of operations:			Ensure efficient employment of resources (people, computers)	Ensure security of resources (cash, AR master data)	For shipping notice inputs, ensure:			For AR master data, ensure:		For remittance inputs, ensure:			For AR master data, ensure:	
	A	B	C			IV	IC	IA	UC	UA	IV	IC	IA	UC	UA
<b>Recommended control plans</b>															
<b>Present controls</b>															
P-1: Review shipped not billed sales orders (tickler)	P-1						P-1								
P-2: Independent billing authorization						P-2									
P-3: Check for authorized process, terms, freight, and discounts						P-3		P-3							
P-4: Independent pricing data		P-4				P-4		P-4							
P-5: Manually reconcile input and output batch totals	P-5					P-5	P-5	P-5							
P-6: Procedures for rejected inputs							P-6								

Recommended control plans	Control Goals of the Stockbridge Billing and Cash Receipts Business Process														
	Control Goals of the Operations Process					Control Goals of the Information Process									
	Ensure effectiveness of operations:			Ensure efficient employment of resources (people, computers)	Ensure security of resources (cash, AR master data)	For shipping notice inputs, ensure:			For AR master data, ensure:		For remittance inputs, ensure:			For AR master data, ensure:	
	A	B	C			IV	IC	IA	UC	UA	IV	IC	IA	UC	UA
P-7: Confirm input acceptance							P-7		P-7						
P-8: Lockbox			P-8	P-8	P-8						P-8				
P-9: Enter cash receipts close to where cash is received				P-9									P-9		
P-10: Manually reconcile batch totals				P-10	P-10						P-10	P-10	P-10		
P-11: Procedures for rejected inputs												P-11			
P-12: Compare input to AR data (customer, invoice, terms, discounts)				P-12							P-12		P-12		
P-13: Manually reconcile batch totals				P-13							P-13	P-13	P-13	P-13	P-13



	Control Goals of the Stockbridge Billing and Cash Receipts Business Process														
	Control Goals of the Operations Process					Control Goals of the Information Process									
	Ensure effectiveness of operations:			Ensure efficient employment of resources (people, computers)	Ensure security of resources (cash, AR master data)	For shipping notice inputs, ensure:			For AR master data, ensure:		For remittance inputs, ensure:			For AR master data, ensure:	
	A	B	C			IV	IC	IA	UC	UA	IV	IC	IA	UC	UA
Recommended control plans															
P-14: Manually reconcile input and output batch totals														P-14	P-14
Missing controls															
M-1: Reconcile input and output batch totals									M-1	M-1					
M-2: Confirm customer accounts regularly						M-2		M-2		M-2					
M-3: Compare amount deposited to amount in remittance file					M-3						M-3		M-3		
M-4: Confirm input acceptance												M-4		M-4	

	Control Goals of the Stockbridge Billing and Cash Receipts Business Process														
	Control Goals of the Operations Process					Control Goals of the Information Process									
	Ensure effectiveness of operations:			Ensure efficient employment of resources (people, computers)	Ensure security of resources (cash, AR master data)	For shipping notice inputs, ensure:			For AR master data, ensure:		For remittance inputs, ensure:			For AR master data, ensure:	
	A	B	C			IV	IC	IA	UC	UA	IV	IC	IA	UC	UA
<b>Recommended control plans</b>															
M-5: Monitor open accounts receivable			M-5												
M-6: Reconcile bank account regularly											M-6		M-6		

Possible effectiveness goals include the following:

- A — Bill customers promptly upon evidence of shipment
- B — Comply with fair pricing guidelines of Robinson-Patman Act.
- C — Optimize cash flows

IV = input validity

IC = input completeness

IA = input accuracy

UC = update completeness

UA = update accuracy

See Exhibit SM-11.1 for a complete explanation of control plans and cell entries.

**FIGURE SM-11.5** Problem 2, part b solution (partial)—control matrix for Stockbridge Company (Billing and Cash Receipts)

**Exhibit SM 11.1** Explanation of Cell Entries for Control Matrix in Figure SM 11.5

**P-1:** *Review shipped not billed sales orders (tickler file).*

*Effectiveness goal A and shipping notice input completeness:* By monitoring the sales orders that have been shipped but not yet billed, we can ensure that all shipping notices are billed in a timely manner.

**P-2:** *Independent billing authorization.*

*Shipping notice input validity:* Comparison of sales orders, entered at order entry, with shipping notices entered by shipping, can reduce the possibility that shipping notices are invalid by verifying that each shipment is supported by an approved sales order.

**P-3:** *Check for authorized prices, terms, freight, and discounts.*

*Shipping notice input validity:* The billing process has an implicit, check for *authorized* prices, terms, discounts, and freight charges at the time that the invoices are prepared. Note that the operative word, *authorized*, speaks to the control goal of input validity.

*Shipping notice input accuracy:* We see prices, terms, freight, and discounts being calculated during the billing process using an approved set of criteria, data, and tables in the enterprise database.

**P-4:** *Independent pricing data.*

*Effectiveness goal B:* In this system, unit selling prices are obtained from the inventory master data. In this way, the inventory master data serves as an *independent* source of those prices. Therefore, determining the price to be charged a customer is beyond the control of the salesperson and others involved in the selling function. This independent pricing of orders helps to ensure that the company does not engage in discriminatory pricing practices in violation of the Robinson-Patman Act.

*Shipping notice input validity:* Automatic pricing presumes that previously authorized prices are used in the billing process.

*Shipping notice input accuracy:* Automatic pricing ensures that a price will be entered and that it will be a correct price.

**P-5:** *Manually reconcile input and output batch totals.*

*Effectiveness goal A, shipping notice input validity, input completeness, and input accuracy:* Batch totals arise from a legitimate source, the billing due list (*input validity*). Batch totals ensure that all of the batched data is converted to an invoice (*input completeness*) and is converted *accurately*. Furthermore, by ensuring that all shipments (entries in the billing due list) are converted to an invoice at this time, we ensure that there will be a *timely* billing process.

**P-6:** *Procedures for rejected inputs.*

*Shipping notice input completeness:* We presume that corrective action will be taken to investigate all rejected items, remedy any errors, and resubmit the corrected input for reprocessing.

**P-7:** *Confirm input acceptance.*

*Shipping notice input completeness and accounts receivable master data update completeness:* By advising the user that input has been accepted, interactive feedback checks help ensure input completeness.

*Accounts receivable master data update completeness:* Because the feedback is provided after the AR data is updated, this feedback ensures update completeness.

**P-8:** *Lockbox.*

*Effectiveness goal C:* By having the payments sent directly to the bank, Stockbridge ensures a more timely deposit (*Goal C*) and reduces the possibility that payments will be diverted by their own employees (*Security*).

*Efficient employment of resources:* The lockbox operation is more efficient than would be the handling of payments within the organization.

*Remittance advice input accuracy:* Lockbox technology and personnel training and experience should lead to a more accurate input process than would be the case at Stockbridge.

**P-9:** *Enter cash receipts close to where cash is received.*

*Efficient employment of resources:* The entry of cash receipts by lockbox personnel provides for a more efficient employment of resources because this arrangement eliminates the costs associated with the handling of the cash receipts data by additional entities.

*Remittance advice input accuracy:* Because lockbox personnel would have both the check and the paid billing statement (e.g., remittance advice), they would be in a position to correct many input errors on the spot, thereby improving input accuracy.

**P-10:** *Manually reconcile batch totals.*

*Security of resources, remittance advice input validity, input completeness, and input accuracy:* By comparing the totals e-mailed from the bank with those from the stored remittance file, we ensure that the remittance data was actually sent from the bank and represents real payments (*security, validity*), that we received and filed all of the data (*completeness*), and that the remittance data was filed correctly (*accuracy*).

*Efficient employment of resources:* By detecting any errors now, we preclude lengthy and costly error correction that might otherwise have been needed later in the process.

**P-11:** *Procedures for rejected inputs.*

*Remittance advice input completeness:* We presume that corrective action will be taken to investigate all rejected items, remedy any errors, and resubmit the corrected input for reprocessing.

**P-12:** *Compare input data to AR master data.*

*Efficient employment of resources:* The computer can ensure that the cash receipts are applied more quickly and at a lower cost by matching payments and invoices and preventing errors from entering the system.

*Remittance input validity:* The matching process verifies that any cash discounts deducted by customers have been *authorized*.

*Remittance advice input accuracy and accounts receivable update accuracy:* Comparison to the accounts receivable master data should reduce input errors. Updates to the accounts receivable data occur simultaneously with input.

**P-13:** *Manually reconcile batch totals.*

*Efficient employment of resources, remittance advice input validity, input completeness, and input accuracy:* By comparing the e-mailed totals to those produced by the computer after the AR update, we can detect errors more *efficiently* than we would by examining the detail (or correcting errors later in the process), and determine that no extra inputs were processed (*validity*), all inputs were processed (*completeness*), and all inputs were processed correctly (*accuracy*).

*Accounts receivable update completeness and update accuracy.* The totals are matched after the updates have been made.

**P-14:** *Reconcile input and output batch totals.*

*Accounts receivable update completeness and update accuracy:* The cash applications clerk manually compares the RA totals before and after the cash receipts batch has been processed to determine that all remittance data (completeness) was correctly (accuracy) posted to the AR master data.

**M-1:** *Reconcile input and output batch totals.*

*Accounts receivable update completeness and update accuracy:* By comparing the totals from the input invoice file with the output totals (Job completed) we determine that all of the updates were recorded correctly.

**M-2:** *Confirm customer accounts regularly.*

*Shipping notice input validity and input accuracy:* The customer can be utilized as a means of controlling the billing process. By sending regular customer statements, we use the customer to check that invoices were valid and accurate.

*Accounts receivable master data update accuracy:* Because statements would be produced from the accounts receivable master data, the customer also determines the accuracy of accounts receivable updates.

**M-3:** *Compare amount deposited to amount in remittance file.*

*Security of resources and remittance advice input validity and input accuracy:* By comparing the remittance file totals to the actual bank deposits, we can ensure that the remittance data represents real deposit (*validity*) and that the file is correct (*accuracy*).

**M-4:** *Confirm input acceptance.*

*Remittance advice input completeness and accounts receivable master data update completeness:* By advising the user that input has been accepted, interactive feedback checks help ensure input completeness.

*Accounts receivable master data update completeness:* Because the feedback is provided after the AR data is updated, this feedback ensures update completeness.

**M-5:** *Monitor Open AR.*

*Effectiveness goal C and remittance advice input completeness:* By reviewing open, unpaid, and possibly overdue accounts receivable, we can ensure timely receipt of payments and ensure that all payments have been entered.

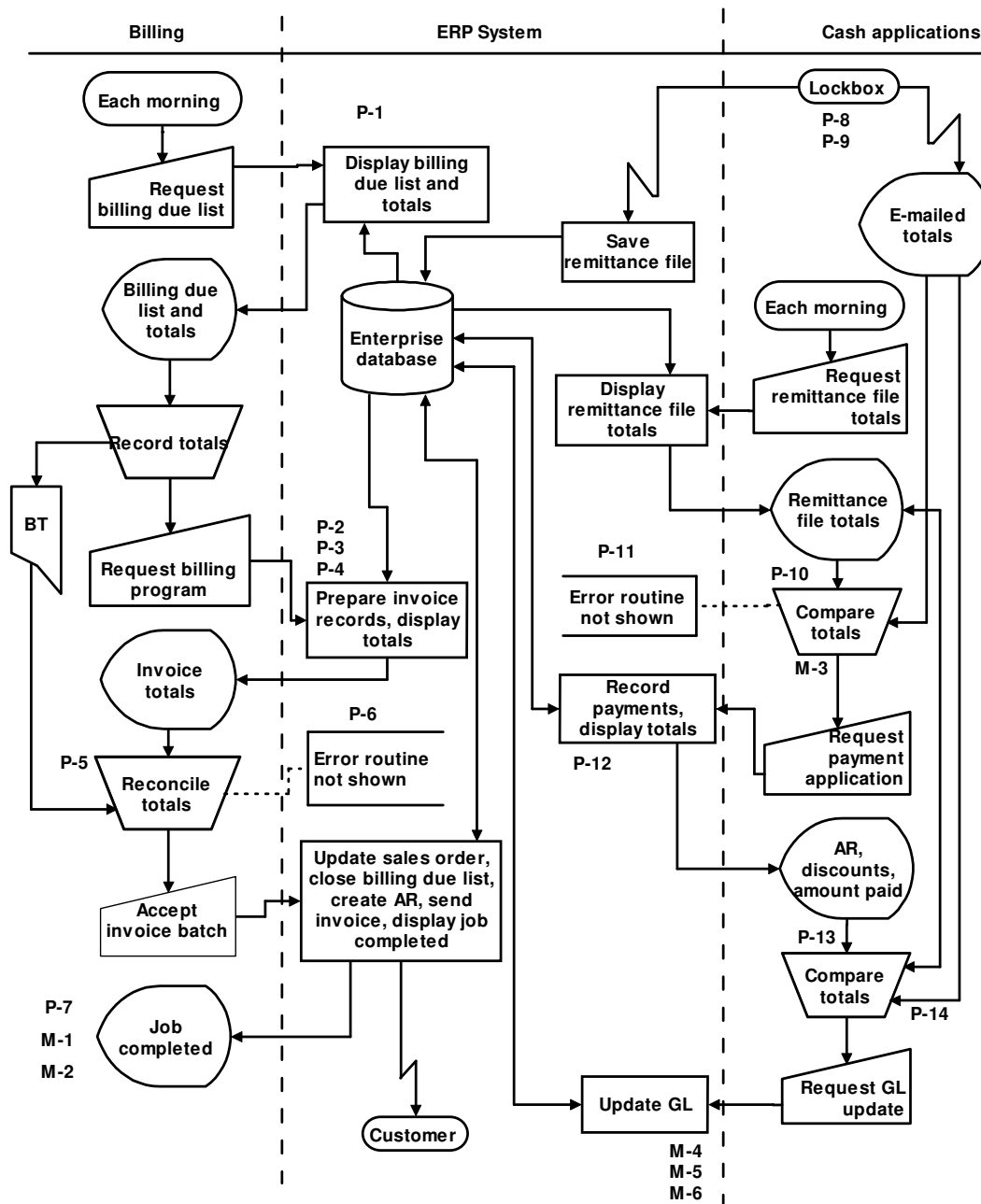
**M-6:** *Reconcile bank account regularly.*

*Remittance advice input validity and input accuracy:* By regularly reconciling the bank account, the organization confirms the validity and accuracy of the recorded cash receipts. The bank statement and *validated* deposit slips will reflect actual cash deposits and the correct amount of those deposits. Ideally, a person who is independent of those who handle and record cash receipts and disbursements should perform the reconciliation.

*Solution Note:* Several controls not described in the preceding list could be included in the solution to this problem, as present or missing, depending on assumptions made. For example:

- At each data entry location, we could include preformatted screens, online prompting, and confirm input acceptance.
- As data is entered into the system, we might find programmed edit checks, populate input screens with master data, and compare input data with master data.

- When there are programmed edit checks, manual comparisons, and reconciliation of batch totals, we might find procedures for rejected inputs.
- Where paper documents are employed, we might find document design, written approvals, and turnaround documents.



**FIGURE SM-11.6** Problem 2, part c solution—annotated systems flowchart for Stockbridge Company (Billing and Cash Receipts)

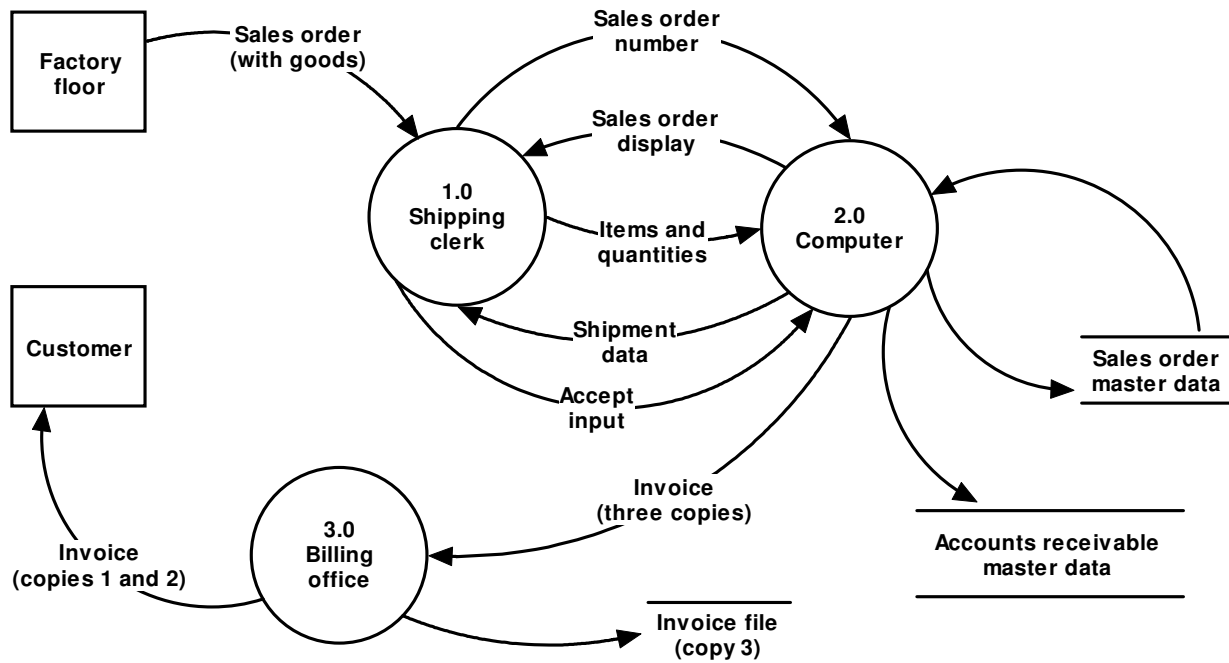
Trenton Novelties, Inc. (billing process) Solutions (see *Note* on pg. 11-4)

**P11-1 ANS. a. Table of Entities and Activities for Trenton Novelties, Inc. (Billing Process)**

Entities	Para	Activities
Shipping department (shipping clerk)	1	1. Receive completed orders.
	1	2. Key sales order number.
Factory floor	1	
Computer	1	3. Access and display sales order data.
Shipping department (shipping clerk)	1	4. Determine that correct sales order has been displayed.
	1	5. Key items and quantities shipped.
	1	6. Review shipment data.
	1	7. Accept input.
Computer	2	8. Update sales order master data.
	2	9. Create and record an invoice.
	2	10. Print invoice.
Billing office (billing clerk)	2	11. Sign invoice.
	2	12. Mail invoice copies one and two.
	2	13. File copy three.
Customer	2	

**FIGURE SM-11.7** Problem 1, part b solution—context diagram for Trenton Novelties, Inc. (billing process)

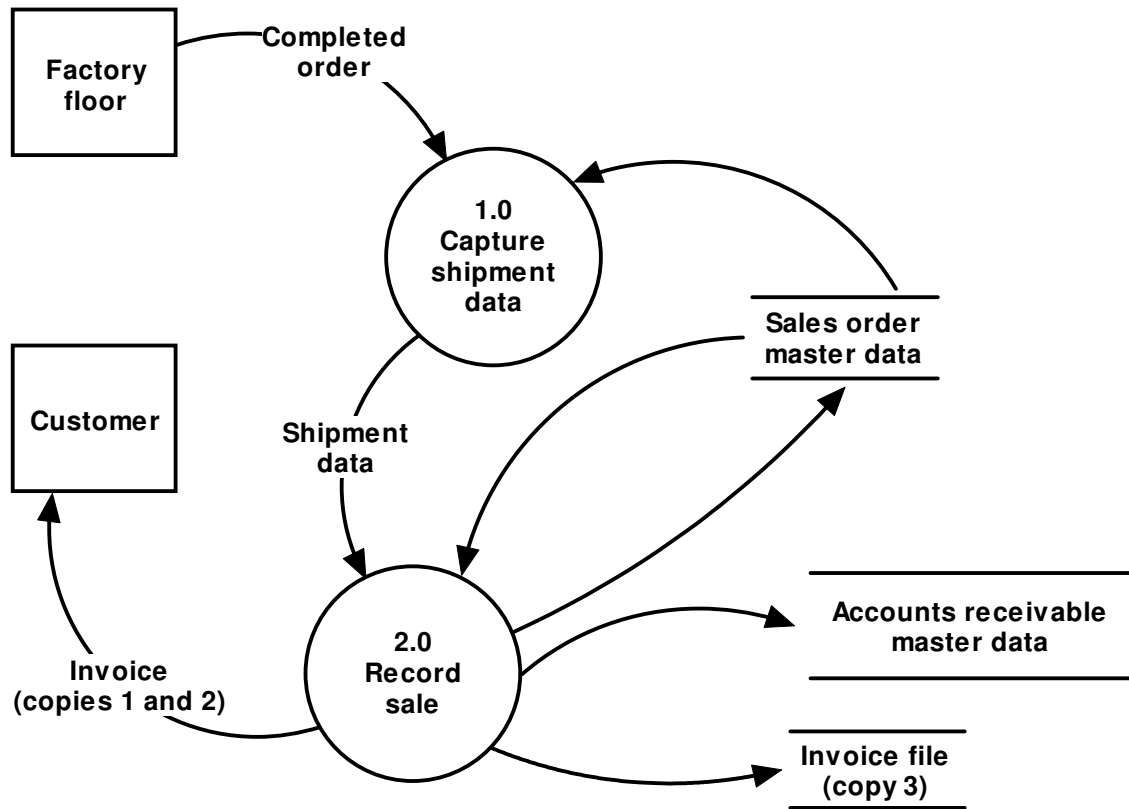




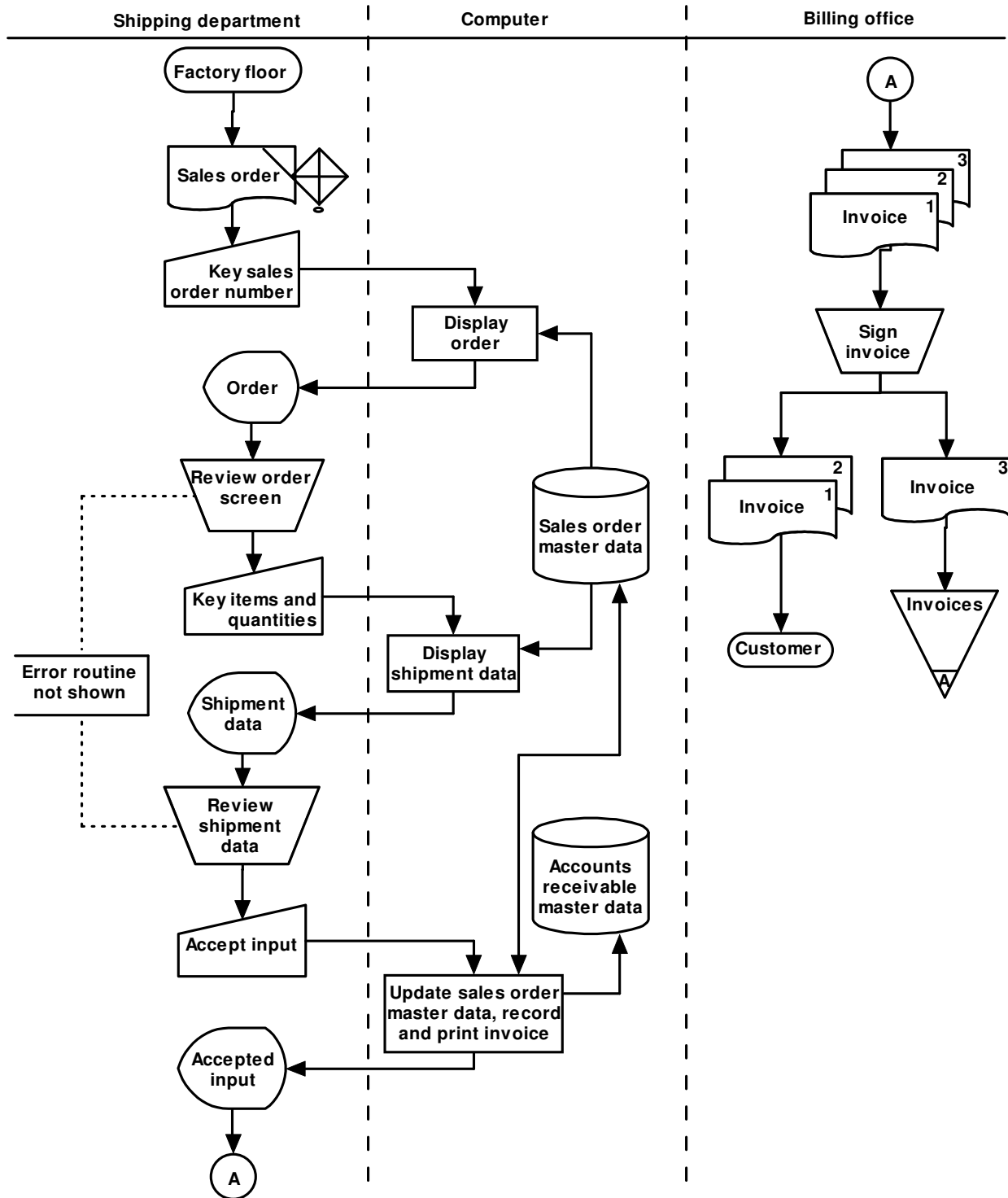
**FIGURE SM-11.8** Problem 1, part c solution—physical DFD for Trenton Novelties, Inc. (billing process)

**P11-1 ANS. d. Table of Entities and Activities (Annotated) for Trenton Novelties, Inc. (Billing Process)**

Entities	Para	Activities	Process
Shipping department (shipping clerk)	1	2. Key sales order number.	
Computer	1	3. Access and display sales order data.	
Shipping department (shipping clerk)	1	4. Determine that correct sales order has been displayed.	<b>1.0 Capture shipment data</b>
	1	5. Key items and quantities shipped.	
	1	6. Review shipment data.	
	1	7. Accept input .	
Computer	2	8. Update sales order master data.	<b>2.0 Record sale</b>
	2	9. Create and record invoice.	
	2	10. Print invoice.	
Billing office	2	11. Sign invoice.	
	2	13. File copy three.	



**FIGURE SM-11.9** Problem 1, part e solution—logical DFD for Trenton Novelties, Inc. (billing process)



**FIGURE SM-11.10** Problem 2, part a solution—systems flowchart for Trenton Novelties, Inc. (billing process).

Recommended control plans	Control Goals of the Trenton Novelties, Inc. Billing Business Process								
	Control Goals of the Operations Process				Control goals of the Information Process				
	Ensure effectiveness of operations:		Ensure efficient employment of resources (people, computers)	Ensure security of resources (accounts receivable master data)	For the completed shipping notice inputs (i.e., completed orders) ensure:			For accounts receivable master data, ensure:	
	A	B			IV	IC	IA	UC	UA
<b>Present Controls</b>									
P-1: Enter shipment data in shipping	P-1		P-1			P-1	P-1		
P-2: Independent billing authorization					P-2				
P-3: Compare input shipping notice to sales order master data					P-3		P-3		
P-4: Procedures for rejected inputs					P-4	P-4	P-4		
P-5: Confirm input acceptance						P-5			
<b>Missing Controls</b>									
M-1: One-for-one checking of goods, completed order and sales order master data				M-1	M-1		M-1		
M-2: Review open sales orders	M-2					M-2			
M-3: Check for authorized prices, terms, and discounts					M-3		M-3		

Possible effectiveness goals include the following

A — To bill customers promptly upon evidence of shipment

B — To provide query and reporting functions that support accountability and meet specific problem-solving requirements

IV = input validity

IC = input completeness

IA = input accuracy

UC = update completeness

UA = update accuracy

See Exhibit SM-11.2 for a complete explanation of control plans and cell entries.

**FIGURE SM-11.11** Problem 2, part b solution (partial)—control matrix for Trenton Novelties, Inc. (billing process)

**Exhibit SM-11.2** Problem 2, part b solution (partial)—explanation of cell entries for control matrix in Figure SM-11.11

*Note:* Shipping notice inputs result in immediate updates to accounts receivable master data. Therefore, we do not show entries for UC or UA.

**P-1:** *Enter shipment data in shipping.*

*Effectiveness goal A:* This strategy places shipping clerks in a position to input shipment data immediately and to record and send the shipments in a timely manner

*Efficient employment of resources, shipping notice input completeness, and input accuracy.* Because shipment data is not sent to another location to be input, shipping data is less likely to be lost, thus improving input completeness. Further, because shipping clerks are familiar with the type of data being entered and can work more efficiently and correct any input errors, thus improving input accuracy.

**P-2:** *Independent billing authorization.*

*Shipping notice input validity:* The shipping clerk compares the completed order to the sales order display thus confirming that there is an authorized, open sales order and that, by that measure, the resulting bill will be valid.

**P-2:** *Compare the input shipping notice to the sales order master data.*

*Shipping notice input validity and input accuracy:* This comparison can ensure that there exists a sales order corresponding to the shipping notice (validity) and that the items and quantities shipped, and for which an invoice will be prepared, are the same as the items and quantities on the sales order.

**P-4:** *Procedures for rejected input.*

*Shipping notice input validity, input completeness, and input accuracy:* We assume that the shipping clerk will not process any shipments that do not have a corresponding open sales order (validity) and will correct (accuracy) and input (completeness) any erroneous shipping notices.

**P-5:** *Confirm input acceptance.*

*Shipping notice input completeness:* By advising the shipping clerk that input has been accepted, we can ensure input completeness.

**M-1:** *One-for-one checking of goods, completed order, sales order master data.*

*Security of resources and shipping notice input validity:* By comparing the sales order master data with the data on the *completed order* and then comparing these data sets to the actual goods being shipped, this plan ensures that inventory shipments have been authorized and represent an actual shipment of goods.

*Shipping notice input accuracy:* By comparing such items as item numbers, quantities, and customer identification, we can ensure that the input of shipping data is accurate.

**M-2:** *Review open sales orders.*

*Effectiveness goal A and shipping notice input completeness:* The open sales orders should be reviewed periodically to ensure that goods are received from the factory floor in a timely manner and that all shipment data has been input (*completeness*).

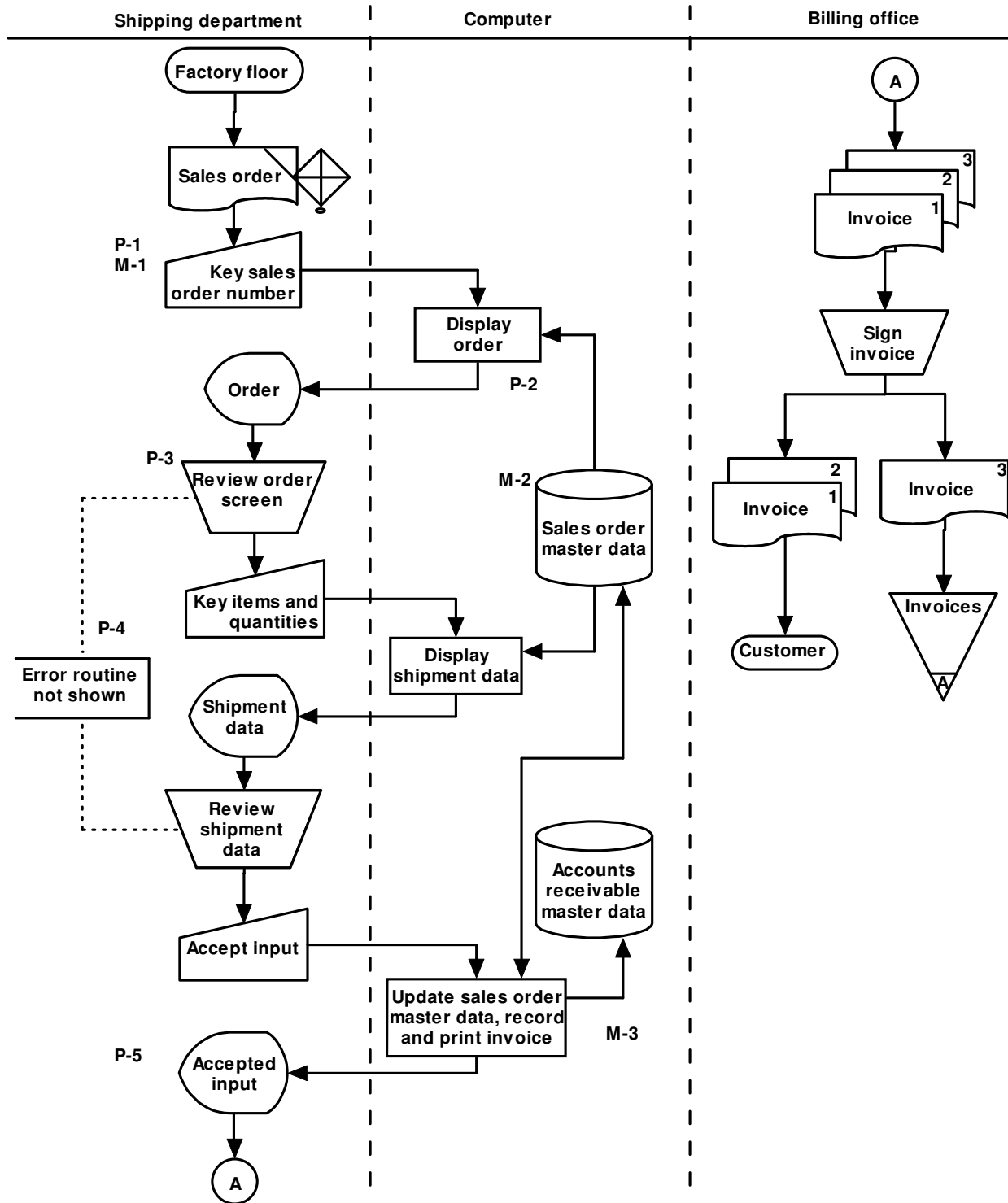
**M-3:** *Check for authorized prices, terms, freight, and discounts.*

*Shipping notice input validity:* The invoice should be prepared and recorded using authorized prices, terms, and discounts to ensure that invoices are valid.

*Shipping notice input accuracy:* Using the prestored prices, terms, and discounts will improve the accuracy of the input data.

*Solution Note:* Several controls not described in the preceding list could be included in the solution to this problem, as present or missing, depending on assumptions made. For example:

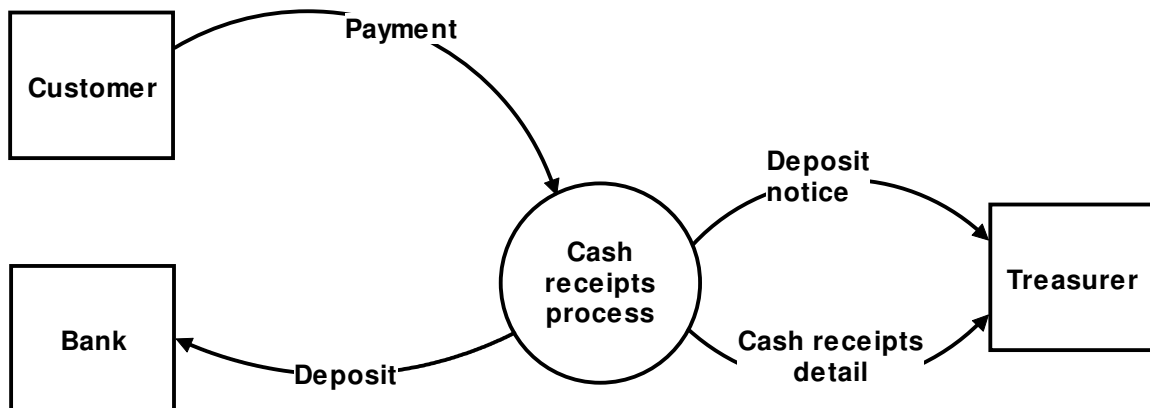
- At each data entry location, we could include automated data entry (missing here in shipping), preformatted screens, online prompting, and confirm input acceptance.
- As data is entered into the system, we might find programmed edit checks, populate input screens with master data, and compare input data with master data.
- When programmed edit checks, manual comparisons, and reconciliation of batch totals are used, we might find procedures for rejected inputs.
- Where paper documents are employed, we might find document design, written approvals, and turnaround documents.
- We could include as missing controls independent pricing data and the regular confirmation of customer accounts.



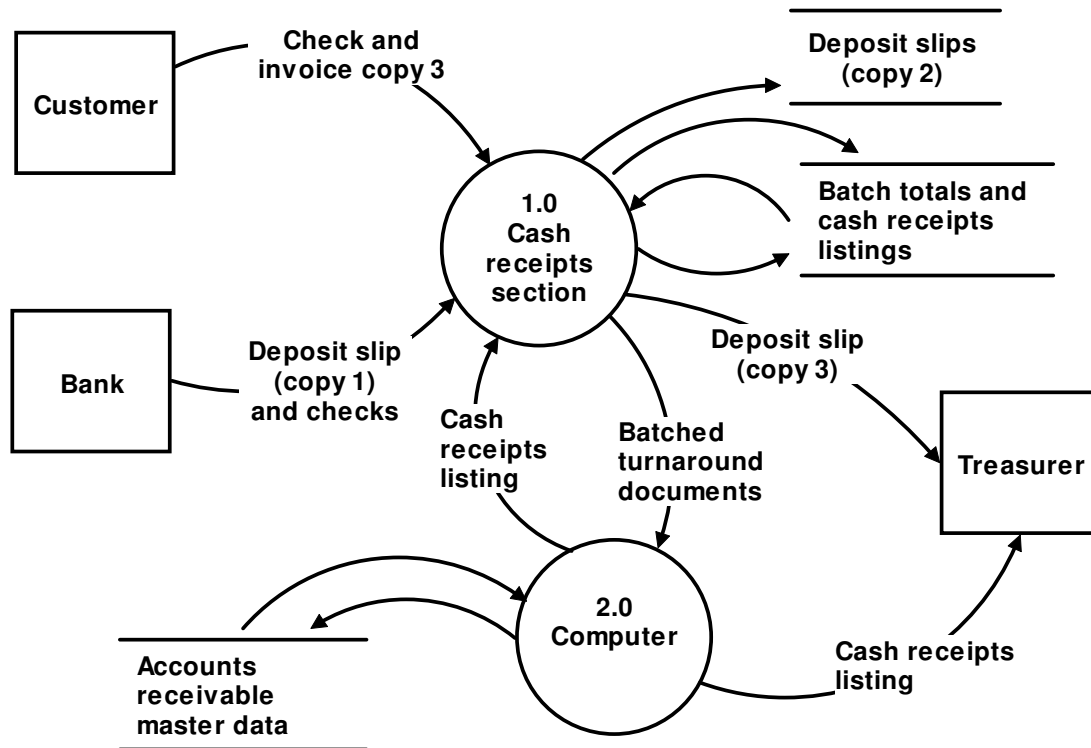
**FIGURE SM-11.12** Problem 2, part c solution—annotated systems flowchart for Trenton Novelties, Inc. (billing process)

**Trenton Novelties, Inc. (cash receipts process) Solutions (see *Note* on pg. 11-4)****P11-1 ANS. a. Table of Entities and Activities for Trenton Novelties, Inc. (Cash Receipts Process)**

Entities	Para	Activities
Customer	1	1. Send check and invoice copy 3 (remittance advice [RA]).
Cash receipts section	1	2. Receive payment (check and RA) from customers.
	1	3. Compare check amount to RA.
	1	4. Enter amount received on RA.
	2	5. Batch checks and RAs.
	2	6. Send RAs to IT.
	2	7. Prepare deposit slip.
	2	8. Deposit checks.
	2	9. File batch totals and copy 2 of deposit slip separately.
	2	10. Send copy 3 of the deposit slip to Treasurer.
Bank	2	
Treasurer	2	
IT/Computer	2	11. Use optical scanner to process RAs.
	2	12. Post customer accounts.
	2	13. Produce cash receipts listing.
	2	14. Send cash receipts listing to Cash receipts.
	2	15. Send cash receipts listing to Treasurer.
Cash receipts section	2	16. Check cash receipts listing against batch totals.
	2	17. File cash receipts listing with related batch total.

**FIGURE SM-11.13** Problem 1, part b solution—context diagram for Trenton Novelties, Inc. (cash receipts process)

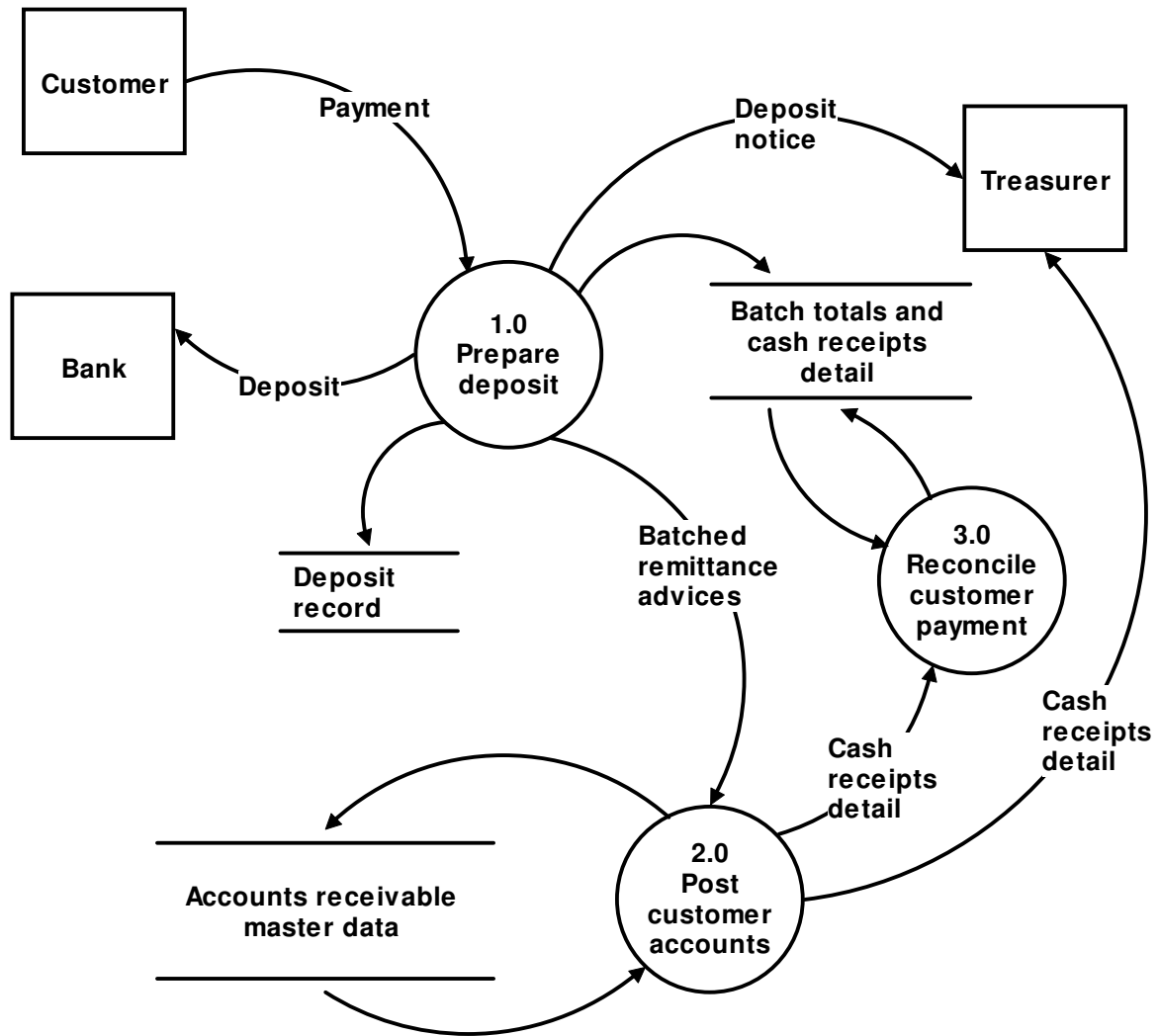




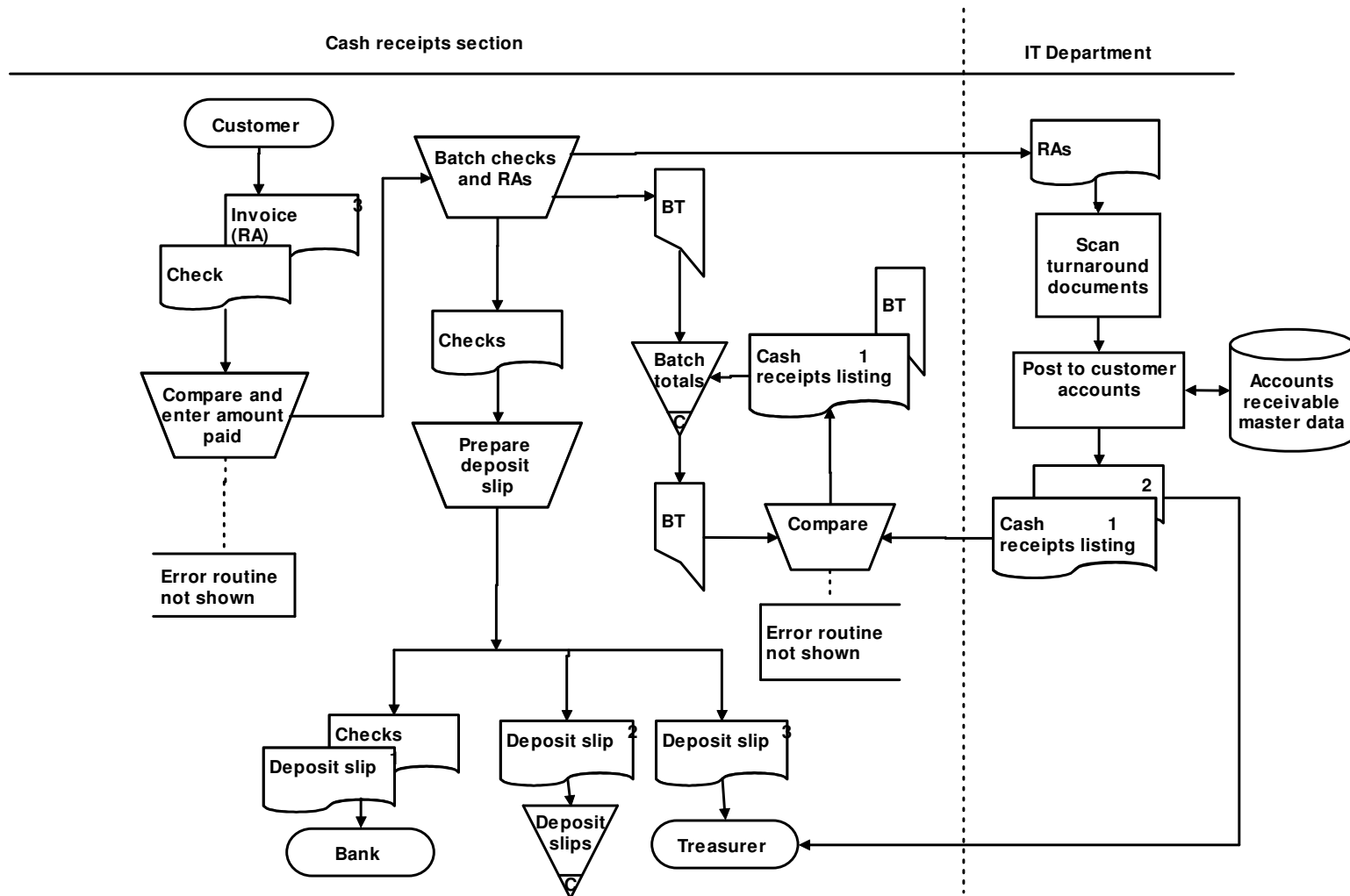
**FIGURE SM-11.14** Problem 1, part c solution—physical DFD for Trenton Novelties, Inc. (cash receipts process)

**P11-1 ANS. d. Table of Entities and Activities (Annotated) for Trenton Novelties, Inc. (Cash Receipts Process)**

Entities	Para	Activities	Process
Cash receipts section	1	3. Compare check to RA.	<i>1.0 Prepare Deposit</i>
	1	4. Enter amount received on RA.	
	2	5. Batch checks and RAs.	
	2	6. Prepare deposit slip.	
	2	9. File batch totals and copy 2 of deposit slip separately.	
Computer	3	11. Use optical scanner to process turnaround documents.	<i>2.0 Post Customer Accounts</i>
	3	12. Post customer accounts.	
	3	13. Produce cash receipts listing.	
Cash receipts section	3	16. Check cash receipts listing against batch totals.	<i>3.0 Reconcile customer payment</i>
	3	17. File cash receipts listing with related batch total.	



**FIGURE SM-11.15** Problem 1, part e solution—logical DFD for Trenton Novelties, Inc. (cash receipts process)



**FIGURE SM-11.16** Problem 2, part a solution—systems flowchart for Trenton Novelties, Inc. (cash receipts process)

Recommended control plans	Control Goals of the Trenton Novelty, Inc. Cash Receipts Business Process								
	Control Goals of the Operations Process				Control Goals of the Information Process				
	Ensure effectiveness of operations:		Ensure efficient employment of resources (people, computers)	Ensure security of resources (cash, accounts receivable master data)	For the remittance advice inputs (i.e., cash receipts), ensure:			For accounts receivable master data, ensure:	
	A	B			IV	IC	IA	UC	UA
<b>Present Controls</b>									
P-1: Compare check and RA	P-1	P-1	P-1		P-1		P-1		
P-2: Immediately separate checks and remittance advices	P-2			P-2					
P-3: Turnaround documents			P-3				P-3		
P-4: Manual agreement of batch totals	P-4	P-4			P-4	P-4	P-4		
<b>Missing Controls</b>									
M-1: Immediately endorse incoming checks				M-1					
M-2: Enter cash receipts close to where cash is received (customer receipts)	M-2		M-2	M-2	M-2	M-2	M-2		
M-3: Computer agreement of batch totals	M-3	M-3	M-3	M-3	M-3	M-3	M-3		

Possible effectiveness goals include the following:

- A – To optimize cash flows by minimizing overdue accounts and reducing the investment in accounts receivable
- B – To provide query and reporting functions that support accountability and meet specific problem-solving requirements

IV= input validity  
 IC = input completeness  
 IA = input accuracy  
 UC = update completeness  
 UA = update accuracy

See Exhibit SM 11.3 for a complete description of control plans and cell entries.

**FIGURE SM-11.17** Problem 2 part b solution—control matrix for Trenton Novelty, Inc. (cash receipts process)

**Exhibit SM-11.3** Problem 2 part b solution (partial)—explanation of cell entries for control matrix in Figure SM-11.17

*Note:* Remittance advice inputs result in immediate updates to accounts receivable master data. Therefore, we do not show entries for UC or UA.

**P-1:** *Compare check and RA.*

*Effectiveness goals A and B:* This comparison will ensure that, when the RA is input, the correct account will be updated (goal A) and that the AR data used for decision making will be accurate (goal B).

*Efficient employment of resources:* Comparing the check and RA while they are together will reduce error correction later in the process and the inefficiency associated with researching the RA and check to correct a problem.

*Remittance advice input validity and input accuracy:* Comparison of the check and the RA at this point ensures that only valid source documents, those representing actual payments, will be input (*validity*) and that data elements appearing on the source documents will be input correctly (*accuracy*).

**P-2:** *Immediately separate checks and remittance advices.*

*Effectiveness goal A:* Quick deposit of checks allows for faster investment of cash.

*Security of resources:* The checks are separated from the remittance advices and the checks are deposited quickly. The less time that the RA and the check are together and the faster the checks are deposited results in less chance that the cash can be diverted or that lapping can occur.

**P-3:** *Turnaround documents.*

*Efficient employment of resources:* An invoice document, printed by the computer, is used to capture and input the data for the cash receipt. This is more efficient than having someone rekey the data.

*Remittance advice input accuracy:* By reducing keying, we also improve input accuracy.

**P-4:** *Manual agreement of batch totals.*

*Effectiveness goals A and B:* This reconciliation of batch totals will ensure that when the RA was input, it was for the correct account (goal A) and that the AR data used for decision making is accurate (goal B).

*Remittance advice input validity, input completeness, and input accuracy:* This reconciliation of the batch totals will ensure that only legitimate source documents were input (*input validity*), that all of the batched data was recorded (*input completeness*), and that the data was recorded correctly (*input accuracy*).

**M-1:** *Immediately endorse incoming checks.*

*Ensure security of resources:* To protect the checks from being fraudulently appropriated, the checks should be restrictively endorsed as soon as possible following their receipt in the organization.

**M-2:** *Enter cash receipts close to where cash is received (customer receipts).*

*Note:* We categorize this as missing because the customer payments are sent to the Cash Receipts section and then to IT

*Effectiveness goal A:* The customer payments are not sent directly to the bank nor are they entered at cash receipts which would greatly accelerate cash flow by eliminating the time required to process those receipts through the Trenton office and to the bank.

*Security of resources:* While the checks are handled at Trenton, they can be misappropriated.

*Efficient employment of resources:* The cash receipts are entered at Trenton, which is not as efficient as processing at a lockbox. However, scanning of the RAs at IT makes up for some of this inefficiency.

*Remittance advice input validity:* A bank lockbox will record deposits only for legitimate payments.

*Remittance advice input completeness and input accuracy:* If the cash receipts are sent directly to the bank, there would be less chance for the cash receipts to be lost, thus improving input completeness. Finally, because cash receipts or bank personnel are familiar with the type of data being entered, they can correct any input errors on the spot, and accuracy is improved.

**M-3:** *Computer agreement of batch totals.*

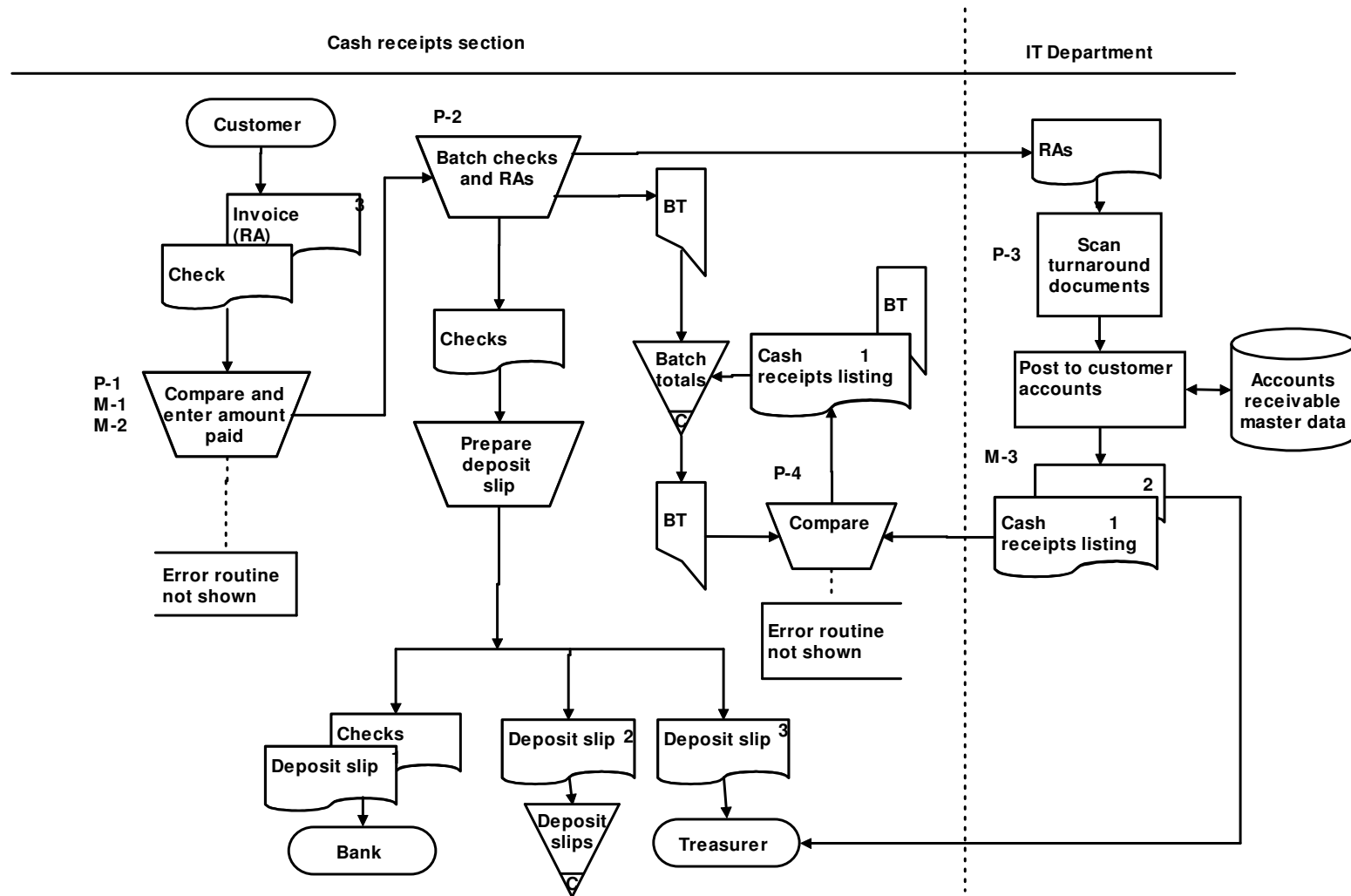
*Effectiveness goals A and B:* This reconciliation of batch totals will ensure that when the RA was input, it was for the correct account (goal A) and that the AR data used for decision making is accurate (goal B).

*Efficient employment of resources:* *By having the cash receipts clerk, rather than the computer, compare input batch totals to the batch of remittances being input, we are not using the full capabilities of the computer and therefore not using resources efficiently.*

*Remittance advice input validity, input completeness, and input accuracy:* This reconciliation of the batch totals will ensure that only legitimate source documents were input (*input validity*), that all of the batched data was recorded (*input completeness*), and that the data was recorded correctly (*input accuracy*).

*Solution Note:* Several controls not described previously could be included in the solution to this problem, as present or missing, depending on assumptions made. For example:

- At each data entry location, we could include automated data entry (Trenton does scan RAs), preformatted screens, online prompting, and confirm input acceptance.
- As data is entered into the system, we might find programmed edit checks, populate input screens with master data, and compare input data with master data. For example, there should be a comparison of the input RA with the open AR as it is posted to the customer accounts.
- When there are programmed edit checks, manual comparisons, and reconciliation of batch totals, we might find procedures for rejected inputs.
- Where paper documents are employed, we might find document design, written approvals, and turnaround documents (these are used for the RA inputs).
- We could have included the missing controls, reconcile bank account regularly and review tickler file of deposit slips (pending receiving copy back from the bank).



**FIGURE SM-11.18** Problem 2, part c solution—annotated systems flowchart for Trenton Novelties, Inc. (cash receipts process)



